

5 What is claimed:

1. A method of deprotecting a hydroxide or amine protected with a group of formula



10 , wherein R is H or independently the same as Ar, and n is 0 or 1-4, Ar refers to an aromatic or heteroaromatic ring with 5 to 6 ring atoms and one to two heteroatoms selected from O, N or S, which can be substituted with amino, alkanoyloxy, alkoxy, alkyl, alkylamino, allyl, carboxy, cycloalkyl, halo, haloalkyl, hydroxy, hydroxyalkyl or nitro, or up to one group which is (i) Ar* which is independently the same as Ar except that it is not substituted with a further aryl, (ii) Ar*-alkyl- or (iii) Ar*O-, a ring
15 atom of Ar adjacent to C* can be substituted with -CH₂-, -O-, -NH-, -S(O)_q- or -P(O)_r-, to form a bridge to a corresponding position on R when R is Ar, q is 0 or 1-2 and r is 0 or 1-2, the method comprising:

20 contacting the protected hydroxide or amine with an enzyme effective to remove the protecting group; and recovering the amine.

2. The method of claim 1, wherein the protecting group is a phenylmethyloxycarbonyl group, which can be substituted.

25 3. The method of claim 1, wherein n is 0 when R is H.

4. The method of claim 1, wherein n is 1 where R is the same as Ar.

30 5. The method of claim 1, wherein the enzyme is obtained from *Sphingomonas paucimobilis*.

6. The method of claim 1, wherein the enzyme is obtained from *Sphingomonas paucimobilis* strain ATCC 202027.

5 7. The method of claim 1, wherein the protected compound is an amine
 which is alanine, valine, leucine, isoleucine, proline, 4-hydroxyproline, phenylalanine,
 tryptophan, methionine, glycine, serine, homoserine, threonine, cysteine,
 homocysteine, tyrosine, asparagine, glutamine, aspartic acid, glutamic acid, lysine,
 α-amino-ε-caprolactam (lysine lactam), ε-methyllysine, ornithine, arginine, histidine
 10 or 3-methylhistidine, or any of the foregoing substituted on an alkyl portion thereof
 with hydroxy or alkyl, on an amino with up to one alkyl, or on a phenyl moiety with
 alkyl, alkanoyloxy, alkoxy, amino, carboxy, cycloalkyl, halo, hydroxy, Ar* or Ar*O-,
 or a derivative of the foregoing forming a portion of a larger molecule via bonds
 formed by dehydration reactions with the amine or carboxylic acid moieties, or by
 15 carbon-nitrogen bonds formed at the amine moieties.

8. The method of claim 7, wherein the amine is α-amino-ε-caprolactam
 or α-amino-δ,δ-dimethyl-ε-caprolactam, or a derivative thereof.

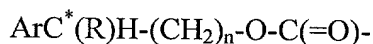
20 9. A method of resolving a racemic mixture of a compound having a
 hydroxyl or amino moiety that is directly bonded to a chiral carbon, the method
 comprising:
 providing a derivative of the compound in which the hydroxide or amine is
 protected with a group of formula $\text{ArC}^*(\text{R})\text{H}-(\text{CH}_2)_n-\text{O}-\text{C}(=\text{O})-$,
 25 wherein R is H or independently the same as Ar, and n is 0 or 1-4, Ar
 refers to an aromatic or heteroaromatic ring with 5 to 6 ring atoms and
 one to two heteroatoms selected from O, N or S, which can be
 substituted with amino, alkanoyloxy, alkoxy, alkyl, alkylamino, allyl,
 carboxy, cycloalkyl, halo, haloalkyl, hydroxy, hydroxyalkyl or nitro, or
 30 up to one group which is (i) Ar* which is independently the same as Ar
 except that it is not substituted with a further aryl, (ii) Ar*-alkyl- or
 (iii) Ar*O-, a ring atom of Ar adjacent to C* can be substituted with -
 CH₂-, -O-, -NH-, -S(O)_q- or -P(O)_r-, to form a bridge to a
 corresponding position on R when R is Ar, q is 0 or 1-2 and r is 0 or 1-
 35 2;

5 contacting the protected compound with an enzyme effective to remove the
 protecting group; and
 isolating the compound or protected derivative thereof in a composition that is
 enantiomerically enriched in the desired enantiomer.

10 10. The method of claim 8, wherein the protecting group is a
 phenylmethyloxycarbonyl group, which can be substituted.

 11. A method of isolating a bacteria producing an enzyme effective to
 remove a protecting group comprising:

15 growing prospective bacteria on a medium having a growth selective amount
 of an amine compound that is protected with a group of formula



 , wherein R is H or independently the same as Ar, and n is 0 or 1-4, Ar
 refers to an aromatic or heteroaromatic ring with 5 to 6 ring atoms and
20 one to two heteroatoms selected from O, N or S, which can be
 substituted with amino, alkanoyloxy, alkoxy, alkyl, alkylamino, allyl,
 carboxy, cycloalkyl, halo, haloalkyl, hydroxy, hydroxyalkyl or nitro, or
 up to one group which is (i) Ar* which is independently the same as Ar
 except that it is not substituted with a further aryl, (ii) Ar*-alkyl- or
25 (iii) Ar*O-, a ring atom of Ar adjacent to C* can be substituted with
 -CH₂-, -O-, -NH-, -S(O)_q- or -P(O)_r-, to form a bridge to a
 corresponding position on R when R is Ar, q is 0 or 1-2 and r is 0 or 1-
 2; and

 isolating bacteria that grow on said medium.

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 12. The method of claim 11, further comprising confirming the
 effectiveness of the enzyme by

 incubating the bacteria with an amine protected with the protecting group; and
 monitoring conversion of the protected amine to the free amine.

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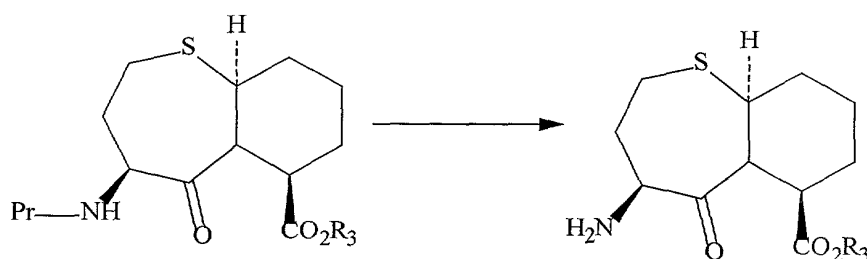
HA724 NP

- 5 13. The method of claim 11, wherein the carbamate protecting group is a phenylmethyloxycarbonyl group, which can be substituted.

14. A collection of two or more bacterial isolates, the isolates isolated by the method of claim 11 using a different amine or a different protecting group.

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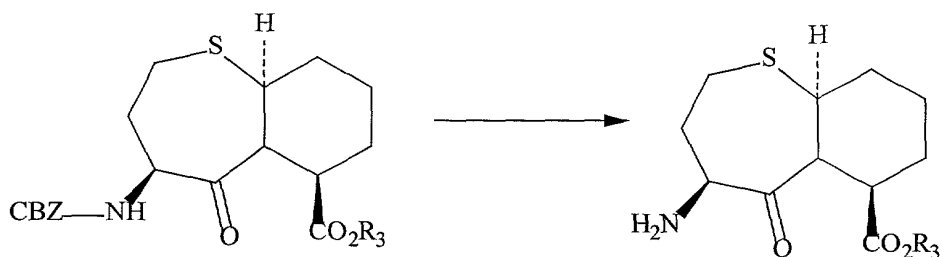
15. The method of claim 1, wherein the contacting effectuates the following reaction:



, wherein Pr- is $\text{ArC}^*(\text{R})\text{H}-(\text{CH}_2)_n-\text{O}-\text{C}(=\text{O})-$.

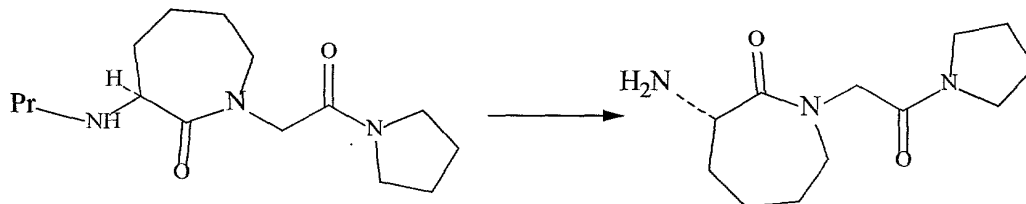
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16. The method of claim 15, wherein the reaction is:



, wherein CBZ- is N-carbobenzyloxy.

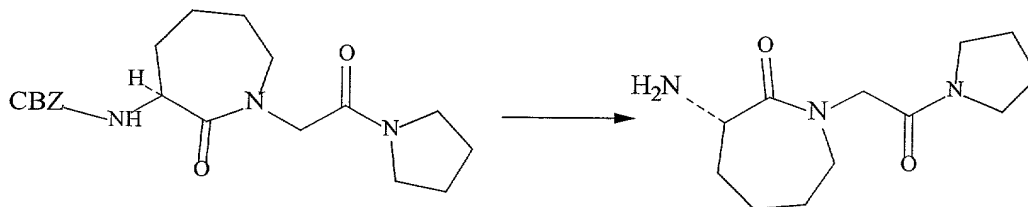
- 20 17. The method of claim 1, wherein the contacting effectuates the following reaction:



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5 , wherein Pr- is $\text{ArC}^*(\text{R})\text{H}-(\text{CH}_2)_n-\text{O}-\text{C}(=\text{O})-$.

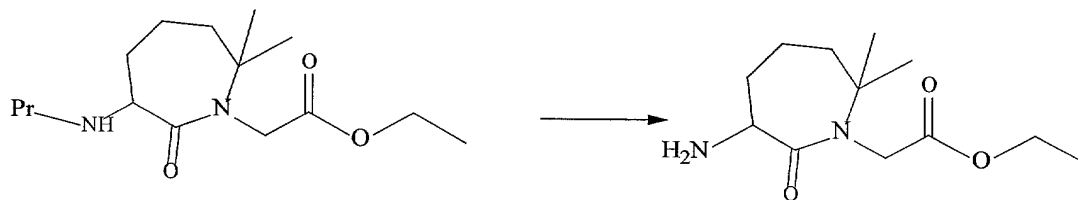
18. The method of claim 17, wherein the reaction is:



, wherein CBZ- is N-carbobenzyloxy.

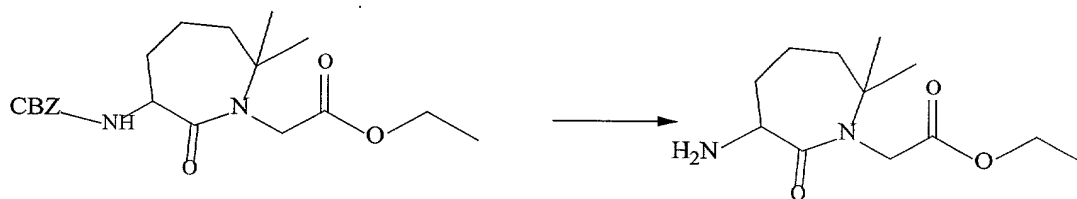
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19. The method of claim 1, wherein the contacting effectuates the following reaction:



15 , wherein Pr- is $\text{ArC}^*(\text{R})\text{H}-(\text{CH}_2)_n-\text{O}-\text{C}(=\text{O})-$.

20. The method of claim 19, wherein the reaction is:



, wherein CBZ- is N-carbobenzyloxy.

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